

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

CURB RAMP AND SIDEWALK DESIGN GUIDELINES:

1. Alterations to pedestrian routes require such pedestrian routes to be made ADA accessible. A survey was prepared by Accessibility Planning & Consulting, Inc. for HDOT, Highways Division as a result of a Consent Decree initiated in June of 1997. This survey lists barriers to be removed by HDOT, Highways Division. Each project shall remove barriers listed in the survey as appropriate. Please note that all barriers are not identified in the survey folders. To assure full compliance with the ADA, further field work may be required. Survey folders can be viewed at each Branch and District Office of HDOT, Highways Division.
2. The typical curb ramp details are intended as curb ramp guidelines for design and construction. Applicable details shall be included on the construction plans.
3. A site specific detail that meets Americans with Disabilities Act Accessibility Guidelines (ADAAG) shall be shown on the plans.
4. To ensure constructability, spot elevations shall be used in the design. Benchmarks and horizontal ties shall be provided for construction stakeout.
5. A 2% maximum cross slope shall be maintained in the direction of pedestrian traffic.
6. Design slopes and flares shall be labeled.
7. Curb ramps shall be installed at 90° to the sidewalk or to the maximum extent feasible, in alterations.
8. At intersections for new construction, curb ramps for each crosswalk are preferred and shall be in line and into the crosswalk. However, for existing sites, a single curb ramp (diagonal curb ramp) servicing two crosswalks can be approved if the design detail is acceptable by the State.
9. Prior to construction, if a curb ramp and/or sidewalk cannot be designed according to these guidelines, either a "Technically Infeasible" form (for existing construction) or a "Structurally Impractical" form (for new construction) shall be filled-out and submitted to the Hawaii Department of Transportation (HDOT), Highways Division for signature which will then be submitted to the Disability and Communication Access Board (DCAB).

10. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% for Type A and D ramps and 8.33% for Type B, C, and E ramps. The counterslope may be exceeded when the change of grade does not exceed 13% (11% preferred) over a distance of 2 ft. Exceeding the 13% (11% preferred) change in grade will cause a person in a wheelchair to tip forward and/or fall backward.
11. All pullboxes shall be installed away from the curb ramp and within the sidewalk/paved area to the maximum extent feasible.
12. Transitions from ramps to gutters and roadways shall be flush.
13. Curb ramps and sidewalks shall be designed to eliminate ponding to the maximum extent feasible.
14. The pedestrian push button shall meet operational and reach requirements of the ADAAG:
  - a) Forward Reach. The maximum height for forward reach shall be 48".
  - b) Side Reach. The maximum height for side reach shall be 54".
  - c) Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf.
15. There shall be a 30" x 48" level ground surface (2% max. cross slope, both directions) for a forward or side approach, as appropriate, to a pedestrian push button.
16. Construction joints are required to join curb ramps with sidewalks.
17. Surfaces of sidewalks and curb ramps shall be firm, stable, and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
18. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation. If this cannot be met, a minimum 32-inch clear width is allowed for a distance of 24-inches.
19. Passing spaces along new sidewalks with 5' clear width or less shall be provided at maximum 200' intervals as required by ADAAG. The passing area shall be a minimum of 5' wide by 5' long.
20. For new construction, the minimum sidewalk width shall be 5'-0" (excluding curb). The cross slope shall not exceed 2%.

21. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of curb ramp and/or sidewalk but within the right-of-way.
22. Objects protruding from utility poles and walls adjacent to sidewalks (i.e. wall mounted fire hydrants, public telephones, meters on poles, etc.) shall be mounted to meet ADAAG and will be subject to Engineer's approval.
23. Bed course material is required for curb ramps, sidewalks, and gutters.
24. Prior to construction, all plans and specifications shall be submitted (for review) to DCAB to ensure compliance with ADAAG as well as any supplemental design specifications established or adopted by DCAB.
25. Additional information is available from:
  - a) Americans with Disabilities Act Accessibility Guidelines (ADAAG), January 1998, The Access Board.
  - b) Accessible Rights-of-Way: A Design Guide, November 1999, The Access Board.
  - c) Designing Sidewalks and Trails for Access, Part 1, July 1999, FHWA.
  - d) Designing Sidewalks and Trails for Access, Part 2, July 1999, FHWA.